

REMARKS

Amendments

5 In the specification, page 9 has been amended to provide explicit counterparts
for

(a) the requirement of a number of claims that the crystalline polymer is
present in amount such that it thickens the oil, and

10 (b) the requirement of Claim 21 (as amended) for the presence of specified
oils.

 In the claims, Claim 11 has been rewritten in independent form, and Claim 21
has been amended to insert the names of specific compounds identified in column 3,
lines 51-59 and 64-65 of U.S. Patent No. 5,736,125 (Morawsky) in place of the
15 references to "oily esters derived from a long-chain acid and/or alcohol" and "long-chain
alcohols". U.S. Patent No. 5,736,125 is of record, and is incorporated by reference in
the application as filed (see page 1, lines 10-13).

 It is submitted that the requested amendments can properly be made at this
20 stage, even if the finality of the rejection is maintained, since they do not raise any new
issues and put the claims in better form for any appeal that may be necessary.

The Rejections under 35 U.S.C. 112

25 Applicants respectfully traverse

(1) the rejection of claims 2, 7-10 and 12-14 under 35 U.S.C. 112, first
paragraph, as "containing subject matter which was not described in the
specification in such a way as to enable one skilled in the art... to make and/or
use the invention",

30 (2) the rejection of claims 2, 7-10, 12-14 and 21-26 under 35 U.S.C. 112, first
paragraph, as "containing subject matter which was not described in the

specification in such a way as to reasonably convey to one skilled in the relevant art that the inventors, at the time the application was filed, had possession of the claimed invention", and

(3) the rejection of claims 2, 7-10 and 12-14 under 35 U.S.C. 112, second paragraph, as being indefinite for "failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention",

insofar as those rejections can be understood and insofar as they are applicable to the amended claims, for the reasons set up below.

1. The Rejection of Claims 2, 7-10 and 12-14 for Lack of Enablement.

Claims 2, 7-10 and 12-14 have been rejected for lack of enablement. The only support for this rejection is the Examiner's assertion that

There is no showing in the specification to instruct one of ordinary skill in the art about the minimum and maximum amount of side chain crystalline polymer, which is necessary to thicken the claimed oil.

The specification as filed contains, on page 9, lines 12-14, an indication of the amounts of the SCC polymer which are preferably used to thicken the oil, and provides specific examples of thickened oils. The thickening of oils by the addition of suitable additives is a well-known technology, as evidenced by the numerous prior art documents which are of record in this application. For example, U.S. Patent No. 5,736,125 (Morawsky), which is incorporated by reference in the application as filed (see page 1, lines 10-13) states in column 3, lines 19-21

In the compositions, the amount of thickening copolymer... is present in an amount sufficient to thicken the composition to the desired thickness.

Those skilled in the art will have no difficulty, therefore, having regard to their own knowledge, the disclosure of this application, and routine experimentation, in determining the amounts of SCC polymer to be used for thickening oils. Applicant asserts, therefore, that the specification contains enablement commensurate in scope with the protection sought by the claims. It is well-settled law that under such

circumstances, a rejection of lack of enablement must be withdrawn unless the Examiner substantiates the rejection by reason or evidence. For example, the CCPA, in *in re Budnick*, 190 USPQ 422, observed

Where an applicant has asserted that the specification contains enablement commensurate in scope of the protection sought by the claims, but the Examiner is of the opinion that the disclosure is not enabling, he has the burden of substantiating his doubts concerning enablement with reason or evidence.

In the present case, the Examiner has not substantiated his doubts in anyway. He has merely **asserted** that the specification is not enabling. It is submitted, therefore, that the rejection should be withdrawn.

For the sake of completeness, it is also noted that there is no need for the specification, in order to comply with the first paragraph of 35 U.S.C. 112, " to instruct one of ordinary skill in the art about the minimum and maximum amount of side chain crystalline polymer necessary to thicken the claimed oil".

2. The Rejection of Claims 2, 7-10, 12-14 and 21-26 for Lack of Written Description

Page 2, lines 11-17, of the specification as filed, reads:

I have discovered, in accordance with the present invention, that oil-containing compositions can be thickened with polymers which contain long chain alkyl groups in side chains but which contain no, or relatively few, acid groups as specified in U.S. Patent No. 5,736,125 or acid salt groups as specified in U.S. Patent No. 5,318 995. Furthermore I have been able to obtain improved results through the use of such polymers. The polymers which are useful in the present invention are crystalline polymers, preferably side chain crystalline (SCC) polymers which...

Consistent with this initial statement of the invention, the remainder of the specification constantly refers to the fact that the purpose and result of adding the crystalline

polymers to the oils is to produce a thickened oil composition. Reference may be made, for example to the following passages.

the use of such polymers as thickening agents (page 3, lines 18-19),
the polymers used as thickeners in the present invention (page 5, line 15),
5 *the thickening polymer* (page 8, lines 23 and 30),
the polymeric thickener (page 5, line 13, page 9, lines 12, 18 and 25),
a thickened oil composition (Claim 1, line 1).

These generalized references to the use of the SCC polymers as thickening agents, and to the production of thickened oil compositions, inherently disclose that the SCC
10 polymer is used in an amount sufficient to thicken the oil. While the precise words "is present in amount of such that it thickens the oil" are not used, Applicant submits that there cannot be the slightest doubt that those words do no more than express an inherent disclosure of the application as filed.

15 The Office Action states, in connection with this rejection,
Only numerical examples citing 3, 5, 7 and 10% can be found

Applicant is not entirely certain what is meant by that statement. It is true that the only **specific** amounts mentioned in the specification are 3, 5, 7 and 10%. But there is nothing in the specification to suggest that these are the only amounts that can be used
20 in accordance with the invention. On the contrary, as noted above, the generalized references to the use of the SCC polymers as thickening agents, and to the production of thickened oil compositions, inherently disclose the use of any amount of the SCC polymer that will result in thickening of the oil. Furthermore, the passage in the specification which refers to the explicit amounts of 3, 5, 7 and 10%, namely Page 9,
25 lines 12-14, of the specification as filed, reads (emphasis added):

*The amount of the polymeric thickener **preferably** used varies with the application. It is **usually** unnecessary to use more than 10% of the total composition, and smaller amounts **such as** 3 to 7%, for example about 5%, are often effective.*

This passage clearly discloses the use of amounts more than, and smaller than, 10%, with the reference to amounts "**such as 3 to 7%**" clearly disclosing the possibility of using amounts less than 3%.

5 3. The Rejection of Claims 2, 7-10, and 12-14 as indefinite.

The Office Action states, in connection with this rejection:

10 *The amount of side chain crystalline polymer necessary to thicken the oil is not defined, forcing one of ordinary skill in the art to engage in undue experimentation, in order to determine the necessary amount.*

Claims 2, 7-10 and 12-14 all contain (explicitly or by reason of their dependency) a limitation that the SCC polymer "is present in amount such that it thickens the oil". Claim 9 is further limited to require that the SCC polymer is present in amount at least 3%. Claims 21-26, which have not been rejected on this ground, likewise contain a
15 limitation that the SCC polymer "is present in amount such that it thickens the oil". Allowed Claim 3 does not state explicitly the quantity of the SCC polymer; however, since it is directed to "A thickened oil composition", it does inherently require that the SCC polymer is present in an amount such that the composition is "a thickened oil composition". Allowed Claims 17-20 state explicitly that the composition contains at
20 least 3% of the SCC polymer.

In view of the foregoing, the nature and rationale of this rejection are not clear to Applicant. However in the interests of advancing prosecution, Applicant will assume, for the purposes of this Reply, that the rejection (i) is applicable to claims 2, 7, 8, 10, 12-14
25 and 21-26 and (ii) is based upon the alleged in clarity of the term "is present in amount such that it thickens the oil".

Applicant submits that the term "is present in amount such that it thickens the oil" does not result in claims that fail to comply with the requirements of 35 U.S.C. 112,
30 second paragraph. According to the CAFC, in *Miles Laboratories vs. Shandon*, 27 USPQ 2d 1123 at 1126

The test for compliance with 35 U.S.C. 112, second paragraph, is whether one skilled in the art would understand the bounds of the Claim when read in light of the specification.... If the claims read in light of the specification reasonably apprise those skilled in the art of the scope of the invention, 35 U.S.C. 112 demands no more.... The degree of precision necessary for adequate claims is a function of the nature of the subject matter. (Citations omitted)

As noted in paragraph 1 above, the thickening of oils by the addition of suitable additives is a well-known technology, as evidenced by the numerous prior art documents which are of record. Those skilled in the art will have no difficulty, therefore, having regard to their own knowledge, the disclosure of this application, and routine experimentation, in recognizing when the SCC polymer is "present in amount such that it thickens the oil", or, alternatively put, when the use of the SCC polymer has resulted in a "thickened oil composition". It follows, therefore, that those skilled in the art will be reasonably apprised of the scope of the invention claimed in each of the claims.

Applicant does not accept that it is necessarily relevant to a rejection on this ground whether or not one of ordinary skill in the art would be forced to engage in undue experimentation to determine the amount of SCC polymer necessary to thicken the oil. However, to the extent that this issue is relevant to this rejection, Applicant submits, for the reasons set out in detail above, that those skilled in the art will have no difficulty, having regard to their own knowledge, the disclosure of this application, and routine experimentation, in determining the amount of SCC polymer that will thicken the oil.

Paragraphs 7 and 8 of the Office Action states that the terms "long chain" and "oily ester" in Claim 21 result in a lack of clarity. There is no rejection of Claim 21 in view of those statements. However, in the interests of advancing prosecution, Applicant has amended Claim 21 so as to eliminate those terms.

The Rejections under 35 U.S.C. 102 and 35 U.S.C. 103

Applicants respectfully traverse

(1) the rejection of claims 2, 7-10 and 12-14 under 35 U.S.C. 102 as anticipated by, or under 35 U.S.C. 103 as obvious over, Mueller (U.S. Patent No. 5,281,329), and

(2) the rejection of claims 21-26 under 35 U.S.C. 103 as obvious over Mueller,

insofar as those rejections are applicable to the amended claims, for the following reasons.

1. The Rejections of Claims 2, 7-10 and 12-14 under 35 U.S.C. 102 and 103.

Paragraph 11 of the Office Action sets out the following bases for these rejections.

(a) *Since the minimum amount of SCC polymer necessary to thicken the oil is not known, the limitation is meaningless... indefinite, not enabling and new matter.*

For the reasons set out in detail above, Applicant believes that the limitation (presumably the limitation that the SCC polymer is present in amount such that it thickens the oil) is properly included in the rejected claims, and must, therefore, be given effect when considering any rejection under 35 U.S.C. 102 or 103.

(b) *Mueller does not use the SCC polymer as a thinner, but as a pour point depressant, i.e. a freezing point depressant.*

It is of course correct that Mueller uses the SCC polymer as a pour point depressant. However, it is also true that Mueller consistently refers to the SCC polymers as "flow improvers", and that in Mueller's disclosure, the effect of the SCC polymer is to make the oil more easily pourable (i.e. "thinner"). This effect is demonstrated specifically in Examples 8-13 of Mueller. For example, in Example 8, the oil without any additive cannot be poured (i.e. is very thick) at all temperatures below 30 °C, whereas, with the additives, the oil is pourable at lower temperatures. In view of these facts, Applicant does not understand why

the Examiner apparently thinks that it is to both possible and relevant to distinguish between use of the SCC polymer as a pour point depressant and as a thinner. In any event, whatever the precise words used, the fact remains that Mueller's objective is totally different from Applicant's objective. As the last response put it, Mueller takes an oil that is thick and makes it fluid, whereas Applicant takes an oil that is fluid and makes it thick.

(c) *What happens to the viscosity when SCC polymer is added in an amount of less than 1%, is unknown.*

Applicant does not understand whether this comment is meant to apply to the Mueller reference or to the claimed invention, or its significance in either case.

(d) *The only thing we know from applicant's specification that the effective thickening amount can be between 3 and 10%.*

Applicant is uncertain what is meant by this statement. It is true that it is known from Applicant's specification that the effective thickening amount **can be** between 3 and 10%. But it is not correct to say that it is known from Applicant's specification that the effective thickening amount **must** be between 3 and 10%. On the contrary, as pointed out above, Applicant's specification teaches one of ordinary skill in the art that the SCC polymer can be used in any amount that is effective, and in particular that in the effective thickening amount can be more than 10% or less than 3%.

(e) *Since applicant is trying to cover the 1-3 % range with their new limitation, the 3-10 % range limitation is meaningless.*

The limitation that the SCC polymer is present "in amount such that it thickens the oil" means what it says. The Examiner is incorrect in characterizing it as "trying to cover the 1-3% range".

2. The Rejection of Claims 21-26 under 35 U.S.C. 103.

Paragraph 14 of the Office Action sets out the following basis for this rejection.

Mueller is useful with petroleum oil fractions. See column 3, line 60. Since mineral oils and vaseline oils are petroleum oil fractions, the use of the

pour point depressant of Mueller in Applicant's claimed compositions, would be clearly obvious...

It is true that column 3, line 60, of Mueller refers to "petroleum oil fractions".

5 However, the quoted phrase is **only part of** a sentence which runs from column 3, line 60 to column 4, line 2. The complete sentence makes it clear that Mueller is not concerned with **all** petroleum oils and petroleum oil fractions, but only with crude oils, vacuum gas oils having a boiling point of 320-500°C, and residual oils which distill above 350°C. Furthermore, the remainder of Mueller makes it clear that Mueller's

10 starting materials are always oils whose "ability... to flow is lowered or entirely prevented" by the "paraffins contained therein" (column 1, lines 14-19), and that the effect of adding the SCC polymer to them is to improve their flow characteristics. It is, therefore, incorrect to conclude that the mineral oils and vaseline oils referred to in Applicant's claim 21 are disclosed in Mueller. Still more is incorrect to say that it is

15 obvious to use SCC polymers in compositions in which their presence produces an effect (thickening) diametrically opposed to that desired by Mueller.

As previously noted, it appears to Applicant that the Examiner's rejections under 35 U.S.C. 102 and 35 U.S.C. 103 are based on a construction of the claims which

20 ignores the limitation that the SCC polymer is present in amount such that it thickens the oil. Applicant submits that since claims in question do in fact contain that limitation, the determination of their patentability under 35 U.S.C. 102 and 103 must proceed on the basis that the limitation is indeed present, independently of any questions that may arise under 35 U.S.C. 112. The last response contains a full explanation why the claims

25 which have now been rejected are patentable over Mueller. Rather than burden the file with a repetition of that argument, Applicant asks the Examiner to regard that argument as being repeated in full in this response also. In summary, Applicant submits that the rejections under 35 U.S.C. 102 and 103 should be withdrawn, because

- (1) Mueller nowhere discloses a composition in which the presence of the
- 30 SCC polymer results in thickening of the oil; and
- (3) Mueller's sole objective is to provide compositions in which the presence

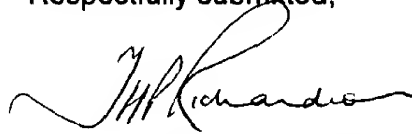
of the SCC polymer increases the pourability of the oil,
and it cannot be obvious to modify Mueller in a way that is directly contrary to Mueller's
instructions, i.e. so as to **decrease** the pourability of the oil (as taught by Applicant)
rather than to **increase** the pourability of the oil (as taught by Mueller).

5

CONCLUSION

It is believed that this application is now in condition for allowance, and such
action at an early date is earnestly requested. If, however, there are any outstanding
10 issues that could usefully be discussed by telephone, the Examiner is asked to call the
undersigned.


Respectfully submitted,



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Docket No. 12969

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Bitler

Group Art Unit: 1714

5 Serial No.: 09/398,377

Examiner: Szekely, P.

Filing Date: 09/17/99

Title: Polymeric Thickeners for Oil-Containing Compositions

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**VERSION OF AMENDED PARAGRAPHS OF THE SPECIFICATION WITH
MARKINGS TO SHOW CHANGES REQUESTED BY THE ACCOMPANYING
REPLY, FILED IN ACCORDANCE WITH 37 CFR 1.121(b)(1) AND (2).**

15

This paper sets out a version of the paragraphs rewritten as requested by the accompanying Reply, marked up to show all the changes relative to the previous version of the paragraphs. In this version, the changes are shown by brackets (for deleted matter) and underlining (for added matter).

20

The paragraph beginning on page 9, line 12 (with the words "The amount of the polymeric thickener") and ending on page 9, line 14 (with the words "..... often effective." has been rewritten to incorporate the changes shown below

25

— — [The amount of the polymeric thickener] The polymeric thickener should be used in an amount sufficient to thicken the oil. The amount preferably used varies with the application. It is usually unnecessary to use more than 10% of the total composition, and smaller amounts such as 3 to 7%, for example about 5%, are often effective. — —

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On June 22, 2002

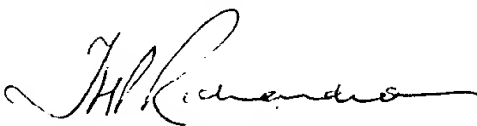
Typed name of person signing this certificate: T. H. P. Richardson

Signature

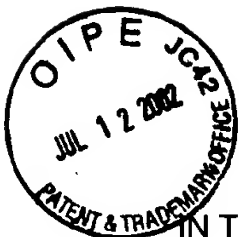
The paragraph beginning on page 9, line 18 (with the words "The new polymeric thickeners.....") and ending on page 9, line 21 (with the words "..... by reference herein." has been rewritten to incorporate the changes shown below

5 The new polymeric thickeners are effective with a broad range of oils.
Suitable oils are disclosed, for example, at column [three] 3, line 37 to column 4,
line 4, of U.S. Patent No. 5, 736,125, and elsewhere in the documents
incorporated by reference herein. Thus the oil can be, for example, an oil
10 selected from the group consisting of mineral oils; vaseline oils; hydrogenated
polyisobutylene; triglycerides; purcellin oil; isopropyl myristate; butyl myristate;
cetyl myristate; isopropyl palmitate; butyl palmitate; ethyl-2-hexyl palmitate;
isopropyl stearate; butyl stearate; octyl hexadecyl stearate; isocetyl stearate;
decyl oleate; hexyl laurate; propylene glycol dicaprylate, diisopropyl adipate;
15 animal oils; silicone oils; oleyl alcohol; linoleyl alcohol; linolenyl alcohol; isostearyl
alcohol; octyl dodecanol; esters derived from lanolic acid; and acetyl glycerides.

Respectfully submitted,



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COPY OF PAPERS
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Docket No. 12969

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Applicant: Bitler

Group Art Unit: 1714

Serial No.: 09/398,377

Examiner: Szekely, P.

Filing Date: 09/17/99

Title: Polymeric Thickeners for Oil-Containing Compositions

**VERSION OF AMENDED CLAIMS WITH MARKINGS TO SHOW CHANGES
REQUESTED BY THE ACCOMPANYING REPLY, FILED IN ACCORDANCE
WITH 37 CFR 1.121(c)(1)(ii).**

This paper sets out a version of each of the claims rewritten as requested by the accompanying Reply (but not the claims which were unchanged or which were canceled or added by the Reply), marked up to show all the changes relative to the previous version of the claim. In this version,

- (i) a parenthetical expression (which is the same as the parenthetical expression in the clean version of claims set out in the Reply) follows the claim number and indicates the status of the claim as amended, and
- (ii) the changes are shown by brackets (for deleted matter) and underlining (for added matter).

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On June 22, 2002

Typed name of person signing this certificate: T. H. P. Richardson

Signature

11. (Amended) A thickened oil composition [according to Claim 10 wherein the SCC polymer is present in amount at least 3 % by weight and the n-alkyl group in the (i) units] comprising

(1) an oil, and

(4) dispersed in the oil, a polymer which

(a) has a crystalline melting point, T_p , and an onset of melting temperature, T_o , such that $T_p - T_o$ is less than $T_p^{0.7}$;

(b) is soluble in the oil at temperatures above T_p ,

(c) has been dispersed in the oil by a process which comprises (i) dissolving the polymer in the oil at a temperature above T_p , and (ii) cooling the solution to crystallize the polymer in the oil,

(d) is a side chain crystalline (SCC) polymer which is substantially free of functional groups, and which consists of

(i) 50 to 100% by weight of units derived from at least one n-alkyl acrylate or methacrylate in which the n-alkyl group contains 16 to 50 carbon atoms, and

(ii) less than 50% by weight of units derived from at least one alkyl acrylate or methacrylate in which the alkyl group is not an n-alkyl group containing 12 to 50 carbon atoms, and

(e) is present in amount at least 3 % by weight

the composition being at a temperature below T_p .

21. (Amended) A thickened oil composition comprising

(1) an oil selected from the group consisting of mineral oils; vaseline oils; hydrogenated polyisobutylene; triglycerides; [oily esters derived from a long-chain acid or a long-chain alcohol or both] purcellin oil; isopropyl myristate; butyl myristate; cetyl myristate; isopropyl palmitate; butyl palmitate; ethyl-2-hexyl palmitate; isopropyl stearate; butyl stearate; octyl hexadecyl stearate; isocetyl stearate; decyl oleate; hexyl laurate; propylene glycol dicaprylate, diisopropyl

adipate; animal oils; silicone oils; [long chain alcohols] oleyl alcohol; linoleyl alcohol; linolenyl alcohol; isostearyl alcohol; octyl dodecanol; esters derived from lanolic acid; and acetyl glycerides;

- (2) dispersed in the oil, a polymer which
- (a) has a crystalline melting point, T_p , and an onset of melting temperature, T_o , such that $T_p - T_o$ is less than $T_p^{0.7}$;
 - (b) is soluble in the oil at temperatures above T_p ,
 - (c) has been dispersed in the oil by a process which comprises (i) dissolving the polymer in the oil at a temperature above T_p , and (ii) cooling the solution to crystallize the polymer in the oil,
 - (d) is a side chain crystalline (SCC) polymer which is substantially free of functional groups, and which consists of
 - (i) 50 to 100% by weight of units derived from at least one n-alkyl acrylate or methacrylate in which the n-alkyl group contains 12 to 50 carbon atoms, and
 - (ii) less than 50% by weight of units derived from at least one alkyl acrylate or methacrylate in which the alkyl group is not an n-alkyl group containing 12 to 50 carbon atoms, and
 - (e) is present in amount such that it thickens the oil;
- the composition being at a temperature below T_p .

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